

REMARKS

Claims 1-19 are pending in the application and have been rejected. Reconsideration and allowance of Claims 1-19 in view of the following remarks is respectfully requested.

The Rejection of Claims 1, 3, 4, 6-8, and 17-19 under 35 U.S.C. §103(a)

Claims 1, 3, 4, 6-8, and 17-19 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Cook et al (U.S. Patent No. 5,562,740) (Cook) in view of Casey (Pulp and Paper Chemistry and Chemical Technology, 3rd Ed., Vol. III, John Wiley & Sons, 1981) and Biermann (Essentials of Pulping and Papermaking, Academic Press, Inc., 1933), and further in view of Sprang et al (U.S. Patent No. 5,571,604) (Sprang).

Claim 1 has been amended. Claim 1 recites whitened crosslinked cellulosic fluff pulp fibers, including cellulosic fluff pulp fibers treated with a crosslinking agent, a whitening agent comprising one or more dyes, and a bleaching agent. Claims 3, 4, 6-8, and 17-19 depend from Claim 1.

The Cook reference, titled "Process for Preparing Reduced Odor and Improved Brightness Individualized, Polycarboxylic Acid Crosslinked Fibers," discloses crosslinked cellulosic fibers and a process for making the fibers that includes applying a citric acid crosslinking agent and a crosslinking catalyst to a web of fibers, separating the web into individualized fibers, heating the individualized fibers to provide individualized crosslinked fibers, and bleaching the crosslinked fibers using hydrogen peroxide and sodium hydroxide. The Cook reference also discloses the use of sodium hypophosphite as a crosslinking catalyst and that the fibers can be used to form absorbent products such as diapers, feminine care products, and tissues (column 17, lines 30-35). The Cook reference does not disclose the use of a whitening agent.

The Casey reference, titled "Pulp and Paper," teaches that paper can be whitened by adding a blue dye because the dye is complementary to the natural yellow tint of pulp. Although the addition of a dye reduces total reflectance, the references indicates that yellowness is about four times as important to the visual perception of whiteness than total reflectance, thus a reduction of yellowness and an increase in whiteness is achieved by adding a blue dye. In addition, the Casey reference teaches that the average person prefers a blue-white to a yellowish white.

The Biermann reference, titled "Essentials of Pulping and Papermaking," teaches that blue dye is often added to pulp to offset the tendency for pulp to be yellow.

The Sprang reference, titled "Adsorbent Fibrous Nonwoven Composite Structure," discloses an absorbent fibrous nonwoven structure comprising cellulosic fibers, and teaches that chemical additives such as pigments, dyes or crosslinking agents, can be added to a fibrous web. In addition, the Sprang reference teaches addition of crosslinking agents to the pulp.

According to the Examiner, the art of the Cook, Casey, Biermann, Sprang references and the instant invention are analogous in that they are from the art of dyeing and bleaching cellulosic fibers, and that it would have been obvious to a person with ordinary skill in the art to add a blue azo dye to the formed web to increase whiteness of the fibrous product in the process of the Cook reference in view of the Casey and the Biermann and further in view of the Sprang reference. Applicants respectfully disagree.

There is no suggestion in any of the cited references to combine the Cook reference with the teaching in the Casey, Biermann, and Sprang references. According to the Federal Circuit, in order to invoke the obviousness rejection, the prior art items themselves must suggest the desirability and thus the obviousness of making the combination without the slightest recourse to the teachings of the patent or application. Without such independent suggestion, the prior art is

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to be considered merely to be inviting unguided and speculative experimentation, which is not the standard with which obviousness is determined. *Amgen, Inc. v. Chugai Pharmaceutical Co., Ltd.*, 927 F.2d 1200, 18 USPQ 2d 1016 (Fed. Cir. 1991); *In re Laskowski*, 871 F.2d 115, 117, 10 USPQ2d 1397, 1398 (Fed. Cir. 1989); *In re Dow Chemical Co.*, 837 F.2d 469, 473, 5 USPQ2d 1529, 1532 (Fed. Cir. 1988); *Hodosh v. Block Drug*, 786 F.2d at 1123 n. 5, 229 USPQ at 187 n.5; *In re Gordon*, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1985); *In re Regel*, 526 F.2d 1399, 1403 n.6, 188 USPQ 136, 139 n.6 (CCPA 1975).

The Cook reference teaches a process for making reduced odor individualized, crosslinked fibers that includes the steps of providing cellulosic fibers, contacting the fibers with crosslinking agent, separating the fibers and reacting the crosslinking agent to form intrafiber crosslinking bonds. The reference identifies the problem of crosslinked fibers as having "the 'smoky and burnt' odor characteristics," (column 3, line 49) and addresses the problem by using oxidizing/bleaching agent. The claimed invention is directed to whitened crosslinked cellulosic fluff pulp. Compared to the teaching in the Cook reference, the claimed invention adds the element of whitening agent. There is absolutely no suggestion or motivation anywhere in the Cook reference to add a whitening agent to its crosslinked fibers. In fact, by solving the color and odor problem by using the oxidizing/bleaching agent, the Cook reference fails to provide any motivation to a skilled person in field to further research to solve the problem. In addition, both the Casey and the Biermann references concern papermaking.

Claims 1 and 9 have been amended to recite "fluff pulp" fibers, which are useful for absorbent products such as diapers. There is no teaching or suggestion in either the Casey or the Biermann references to apply a dye to cellulosic fluff pulp fibers for absorbent products. Applicants agree with the Examiner that the Sprang reference mentions adding crosslinking agents to the pulp mixture. However, in contrast to the claimed invention, the reference teaches

the addition of "dyes" as a post-treatment process after the composite structure is formed. Because there is no suggestion or motivation in the cited references to combine their teachings, their combination is improper.

Objective indicia of nonobviousness also indicate that the invention as now claimed is nonobvious in view of the cited references. According to the Federal Circuit, finding obviousness through hindsight (i.e., after the fact of the invention and with the teachings of the inventor available) is impermissible and refuted by the objective indicia of nonobviousness. *In re Piasecki*, 745 F.2d 1468, 223 USPQ 785 (Fed. Cir. 1984); *In re Sernaker*, 702 F.2d 989, 217 USPQ 1 (Fed. Cir. 1983).

There is a long felt but unsolved need to have a whiter fluff pulp as indicated in the specification (page 2, line 31-page 3, line 35). The Casey reference was published in 1981. The Biermann reference was published in 1993. Applicants agree with the Examiner that the use of a whitening agent to paper is known. Yet, for over twenty years, no one has reported using a whitening agent, as disclosed in the Casey and Biermann references, to neutralize the natural yellowness of the fluff pulp, and provide a whiter fluff pulp. The Cook reference attempts to solve the need for whiter crosslinked fibers by bleaching the crosslinked fibers. The Cook patent was issued in 1996. Despite the fact it has been over ten years since the publication of the Casey and Biermann references, the Cook reference, which seeks to solve the problem of discolored fibers, fails to include a whitening agent in solving the problem even though the reference has clearly identified the need (column 3, lines 34-40). Therefore, using a whitening agent, such as a blue dye, to whiten crosslinked fibers is not known, and the objective indicia of nonobviousness support the nonobviousness of the claimed invention.

Finally, applicants submit that the combination of the cited references does not lead to the invention as now claimed. The Examiner seems to have made two leaps in his reasoning for the

rejection without providing any support. First, the Examiner states that "the use of a whitening agent to whiten pulp is well known" after discussing teachings from the Cascy and Biermann references. As the Examiner has recognized, both Casey and Biermann teach how to make paper appear whiter by adding a blue dye. With the teaching from the claimed invention in mind and without providing any evidence, the Examiner proceeds to suggest that the use of a whitening agent to whiten fluff pulp is well known, despite the fact that for over twenty years after the publication of the Casey and Biermann references, no one has accomplished that. Second, from the teaching in the Sprang reference, the Examiner concludes that "dyed and crosslinked fibers are known in prior art." Based on this conclusion and without providing any evidence, the Examiner reasons that whitened and crosslinked fibers are known in prior art. The Examiner seems to equate the word "dyed" with the word "whitened." According to Merriam-Webster Dictionary online (<http://www.m-w.com/dictionary/>), "dye" means "color from dyeing," "whitened" means "make white or whiter," and "white" means "free from color." Therefore, contrary to the Examiner's reasoning, "dyed" is opposite from "whitened" according to its common meaning. Thus, the combined teachings of the cited references only teach using a whitening agent to whiten paper pulp and dyed fibers and crosslinked fibers. Contrary to the Examiner's statement, there is no suggestion to make or evidence to support using whitening agent to make whitened fluff pulp and whitened crosslinked fluff pulp fibers as in the claimed invention.

As the court in *In re Ruffet* has recognized, "invention itself is the process of combining prior art in a nonobvious manner." *In Re Ruffet*, 149 F.3d 1350, 47 U.S.P.Q.2d 1453 (Fed. Cir. 1998). The claimed invention solves a long felt need in the fluff pulp industry by introducing whitening agent into crosslinked fluff pulp. The cited references have failed to teach, suggest, or provide any motivation to make the claimed whitened crosslinked cellulosic fluff pulp fibers.

The claimed invention is nonobvious and patentable over the cited references. Withdrawal of the rejection is respectfully requested.

The Rejection of Claims 2, 9-11, and 13-16 under 35 U.S.C. §103(a)

Claims 2, 9-11, and 13-16 are rejected under 35 U.S.C. §103(a) as being unpatentable over the Cook, Casey, Biermann, Sprang references, as applied to Claims 1, 3, 4 and 6-8 and 17-19 above, and further in view of von Raven (U.S. Patent No. 5,482,514) (von Raven).

Claim 2 depends from Claim 1. Claim 2 recites that the fibers are treated with an amount of crosslinking agent, the whitening agent, and the bleaching agent sufficient to provide crosslinked fibers having increased whiteness compared to crosslinked fibers that have not been treated with the whitening agent and bleaching agent.

Claim 9 has been amended. Claim 9 recites a method for making whitened crosslinked cellulosic fluff pulp fiber that includes the steps of applying a whitening agent, crosslinking agent, and optionally a crosslinking catalyst to a web of fluff pulp fibers, separating the web of treated fibers into individualized treated fibers, heating the individualized treated fibers to provide individualized crosslinked fibers, and applying a bleaching agent to the crosslinked fibers. Claims 10, 11, and 13-16 depend from Claim 9.

The von Raven reference, titled "Process for Enhancing the Whiteness, Brightness and Chromaticity of Papermaking Fibers," relates to a process for enhancing the whiteness, brightness, and chromaticity of papermaking fibers or mixtures by adding photoactivators as a catalyst for bleaching. Further, the reference indicates that photoactivators are dyes that have a photodynamic effect. The reference discloses that papermaking fibers bleached with photoactivators are whiter than those that are not bleached.

According to the Examiner, the art of the Cook, Casey, Biermann, Sprang, von Raven references and the instant invention are analogous as they pertain to the treatment of fibers, and

that it would have been obvious at the time the invention was made to a person with ordinary skill in the art to add a blue azo dye as a functionally equivalently option to the formed web and to bleach the crosslinked fibers to increase whiteness of the fibrous product in the process of the Cook reference in view of the Casey, Biermann and Sprang reference, and further in view of the von Raven reference to make the product more preferable to customers. Applicants respectfully disagree.

The von Raven reference teaches away from the claimed invention. The reference teaches how to use photoactivators to enhance the whiteness, brightness, and chromaticity of a papermaking fiber. According to von Raven's teaching, one advantage of using photoactivators is that the photoactivators increase the brightness of the papermaking fiber. The reference has recognized the disadvantage of adding a blue dye to reduce the yellow tinge of papermaking fibers by stating that "the addition of such dyes results in a certain loss of whiteness and, in particular, in a very marked drop in brightness." See column 1, lines 47-53. The observation is consistent from the teaching in the Casey reference, as the Examiner has pointed out, that addition of a dye reduces total reflectance, therefore the brightness of the pulp. Therefore, by focusing on increasing the brightness of papermaking fibers, the von Raven references teaches away from adding azo dye to its fibers.

Further, despite the fact the von Raven, Casey, and Biermann references are in the papermaking industry, which is different from the absorbent products industry as in the Cook and Sprang reference, the Examiner combines the teaching in the references without citing any suggestion or motivation for the combination. Because the cited references fail to teach, suggest, or provide any motivation to make the claimed whitened crosslinked cellulosic fluff pulp, the claimed invention is nonobvious and patentable over the cited references. Withdrawal of this rejection is respectfully requested.

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The Provisional Obviousness-Type Double Patenting Rejection

Claims 1, 3-6, 9-14 and 17-19 have been provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 1-14 of co-pending application No. 10/815,159 in view of Farr et al ("Bleaching Agents" Kirk-Othmer Encyclopedia of Chemical Technology, John Wiley & Sons, 2003) and further in view of the von Raven reference.

Applicants note the provisional double patent rejection and will file a terminal disclaimer on the Examiner's indication of allowable subject matter.

CONCLUSION

In view of the above amendments and foregoing remarks, applicants believe that Claims 1-19 are in condition for allowance. If any issues remain that may be expeditiously addressed in a telephone interview, the Examiner is encouraged to telephone applicants' attorney at 206.695.1755.

Respectfully submitted,

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